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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,131

03/30/2006

Tatsumi Yanai

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7916

48980

7590

04/28/2010

YOUNG BASILE

3001 WEST BIG BEAVER ROAD

SUITE 624

TROY, MI 48084

EXAMINER

WERNER, DAVID N

ART UNIT

PAPER NUMBER

2621

NOTIFICATION DATE

DELIVERY MODE

04/28/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/574,131	Applicant(s) YANAI ET AL.	
	Examiner David N. Werner	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20070314, 20080324, 20091202</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This is the First Action on the Merits for U.S. Patent Application 10/574,131, which is the National Phase Entry of International Patent Application PCT/IB2005/03522, filed 23 November 2005, and claiming foreign priority to Japanese Patent Application 2004-342457, filed 26 November 2004, and to Japanese Patent Application 2005-018726, filed 05 April 2005. Claims 1–28 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. Figures 12 and 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

5. Claims 1–3, 5, 7–12, 15, 16, and 20–28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application 2004/0227647 A1 (*Yanai*). The inventor of the *Yanai* reference is listed as an inventor for the current application. However, the *Yanai* reference was published on 18 November 2004, more than one year prior to the filing date of the international application, which is the effective filing date under 35 U.S.C. § 365. MPEP § 1893.03(b). The two foreign priority applications do not change the effective filing date. MPEP § 706.02-VI. The *Yanai* reference is a statutory bar under 35 U.S.C. 102(b) and cannot be overcome by an affidavit or declaration under 37 CFR 1.131.

Yanai teaches a vehicle navigation system integrated with external imaging of the vehicle's surrounding area. Regarding Claim 1, in *Yanai*, cameras 11a and 11b which photograph peripheral side areas of vehicle 100 (¶ 0029) are the claimed plurality of cameras which pick up images of the periphery of the vehicle. A navigation system 12 uses GPS to acquire the global position of the current vehicle position, as claimed. *Yanai*, ¶ 0034. The navigation system further sets a specific route for the vehicle based on a driver input. *Id.* at ¶ 0035. This process inherently involves determining a global direction of the vehicle. When the vehicle is not in a predetermined region in which the

image is chosen automatically, the cameras are used to acquire "image information". *Id.* at ¶ 0054. This is the claimed acquiring of "road information". The image information, current position information, and map information, are forwarded to imaging determination unit 13. *Id.* The imaging determination unit 13 uses this information to display selected images on monitor 14. *Id.* at ¶¶ 0056–0061. This is the claimed step of selecting the images. The display of the images on monitor 14 is the claimed step of displaying the image(s) to the driver. *Id.* at ¶¶ 0036–0037, 0062.

Regarding Claim 2, figure 10 of *Yanai* illustrates a scenario in which a vehicle approaches a merging area. When the vehicle crosses location d1, monitor 14 begins displaying side images. *Yanai*, ¶ 0036. Location d1 is the claimed display starting point. The conditions such as potential presence of another vehicle, requiring the driver's attention (¶¶ 0041, 0043) are the claimed road conditions. A side image is accordingly selected and displayed on the monitor to prevent a blind-spot collision. *Id.* at ¶ 0036.

Regarding Claim 3, figures 6 and 7 of *Yanai* illustrate two scenarios in which the vehicle approaches an intersection at different angles. The entry conditions that produce the image 110 being displayed include the projected route 100 from the navigation system 10. This route includes information on entry direction (compass direction), entry angle (90 degrees in figure 6 and a shallow angle in figure 7) and position of vehicle (distance to intersection), as claimed.

Regarding Claim 5, in *Yanai*, a rear image may be formed by displaying pictures from multiple cameras, at step S112. *Yanai*, Figure 11, ¶ 0078.

Regarding Claim 7, figures 3, 5, and 9 of *Yanai* illustrate scenarios in which a vehicle is shown entering a road.

Regarding Claim 8, figure 10 of *Yanai* illustrates a prescribed distance between locations d1 and d2. The positions of d1 and d2 are formed in this particular instance as the start and endpoint of a merge area, as the distance from the camera to the side of the road decreases from two lane widths to one lane width.

Regarding Claim 9, in the lane merge scenario shown in figure 10 of *Yanai*, the left camera is the source of the images on the monitor, to give illustration of the merge area.

Regarding Claim 10, in *Yanai*, the selected image is determined based on the direction the vehicle is most likely to travel. *Yanai*, ¶ 0051. The selected image is determined from the one that would most likely to assist the driver. *Id.* at ¶¶ 0056–0058. The relationship between the camera that is predicted to give the most useful image and the display of the most useful image is the claimed positional relationship.

Regarding independent Claim 11, in *Yanai*, the plurality of cameras 11 is the claimed plurality of cameras. Navigation system 12 which determines the location of the vehicle (¶ 0036) is the claimed starting point detection portion, and startup imaging determination unit 13 which selects images to display from different cameras when navigation system 12 determines a starting location has been reached (¶ 0036) is the

claimed entry conditions detecting portion and the claimed image range adjusting portion. Monitor 14 is the claimed display.

Regarding Claim 12, figures 6 and 7 of *Yanai* illustrate two scenarios in which the vehicle approaches an intersection at different angles. The entry conditions that produce the image 110 being displayed include the projected route 100 from the navigation system 10. This route includes information on entry direction (compass direction), entry angle (90 degrees in figure 6 and a shallow angle in figure 7) and position of vehicle (distance to intersection), as claimed.

Regarding Claim 15, in *Yanai*, a rear image may be formed by displaying pictures from multiple cameras, at step S112. *Yanai*, Figure 11, ¶ 0078.

Regarding Claim 16, in *Yanai*, a rear image may be formed by displaying pictures from multiple cameras, at step S112. *Yanai*, Figure 11, ¶ 0078.

Regarding Claim 20, figures 3, 5, and 9 of *Yanai* illustrate scenarios in which a vehicle is shown entering a road.

Regarding Claim 21, in *Yanai*, GPS navigation system 12 (¶ 0034) acts as the claimed vehicle position acquiring portion and vehicle direction acquiring portion. Determination unit 13 (¶ 0036) acts as the claimed road information acquiring portion and image selecting portion.

Regarding Claim 22, figure 10 of *Yanai* illustrates a prescribed distance between locations d1 and d2. The positions of d1 and d2 are formed in this particular instance as the start and endpoint of a merge area, as the distance from the camera to the side of the road decreases from two lane widths to one lane width.

Regarding Claim 23, in the lane merge scenario shown in figure 10 of *Yanai*, the left camera is the source of the images on the monitor, to give illustration of the merge area.

Regarding Claim 24, in *Yanai*, the rear image view is activated when the vehicle's direction must change, such as when the vehicle makes a turn at a shallow or perpendicular angle, as shown in figures 6 and 7, or when another vehicle may strike the current vehicle from an angle, such as in figure 4.

Regarding Claim 25, in *Yanai*, the selected image is determined based on the direction the vehicle is most likely to travel. *Yanai*, ¶ 0051. The selected image is determined from the one that would most likely to assist the driver. *Id.* at ¶¶ 0056–0058. The relationship between the camera that is predicted to give the most useful image and the display of the most useful image is the claimed positional relationship.

Regarding Claim 26, in *Yanai*, the selected image is determined based on the direction the vehicle is most likely to travel. *Yanai*, ¶ 0051. The selected image is determined from the one that would most likely to assist the driver. *Id.* at ¶¶ 0056–0058. The relationship between the camera that is predicted to give the most useful image and the display of the most useful image is the claimed positional relationship.

Regarding Claim 27, in *Yanai*, the selected image is determined based on the direction the vehicle is most likely to travel. *Yanai*, ¶ 0051. The selected image is determined from the one that would most likely to assist the driver. *Id.* at ¶¶ 0056–0058. The relationship between the camera that is predicted to give the most useful image and the display of the most useful image is the claimed positional relationship.

Regarding Claim 28, in *Yanai*, the selected image is determined based on the direction the vehicle is most likely to travel. *Yanai*, ¶ 0051. The selected image is determined from the one that would most likely to assist the driver. *Id.* at ¶¶ 0056–0058. The relationship between the camera that is predicted to give the most useful image and the display of the most useful image is the claimed positional relationship.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 13, 14, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yanai* in view of Japanese Patent Application Publication 平成10-264722 (*Miichi*), presented in the 14 March 2007 IDS. Claims 4 and 13 are directed to a front camera at the front of a vehicle. *Yanai* does not disclose this front camera, but instead only appears to be directed to two side cameras.

Miichi teaches a vehicle camera system. Regarding Claim 4, in *Miichi*, three cameras are presented: two side cameras as in *Yanai*, and a forward facing camera 18. *Miichi*, ¶¶ 0009, 0013. The forward camera 18 is the claimed front camera. In normal situations, the image from the forward camera 18 is displayed. *Id.* at ¶ 0019. This is the claimed displaying the image picked up by the front camera. In certain scenarios,

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such as the vehicle traveling slowly or approaching an intersection, a wide-angle "nose view" is demanded, and images from all three cameras are displayed. *Id.* at ¶¶ 0014–0021. As shown in figure 3, one of the scenarios in which the wide angle nose view is required is one in which the vehicle is exiting an alley bordered by high barriers. The switching to the nose view in this type of situation is the claimed displaying of an image from the side cameras when the image cannot be picked up by the front camera.

Yanai discloses the claimed invention except for use of a forward-facing camera. *Miichi* teaches that it was known to supplement a side camera system with a forward camera. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to modify the system of *Yanai* to include the forward camera of *Miichi*, since *Miichi* states in ¶ 0019 that such a modification would enable the system to gather more road information and so come to a better decision of how to display images from different cameras.

Regarding Claims 13 and 14, forward surveillance camera 18 in *Miichi* is the claimed front camera, as described with respect to claim 4 above.

Regarding Claims 17 and 18, in *Yanai*, a rear image may be formed by displaying pictures from multiple cameras, at step S112. *Yanai*, Figure 11, ¶ 0078. Alternatively, in *Miichi*, the nose view image from the front camera 18 and the side cameras 11 and 12 may also be the claimed composite image from overlapping camera fields of view.

8. Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yanai* in view of U.S. Patent 5,574,443 A (*Hsieh*). Claims 6 and 19 are directed to two side cameras and a rear camera which produce a composite image when the vehicle is driving in a reverse direction. *Yanai* does not disclose the rear camera.

Hsieh teaches a vehicle camera system with three installed cameras. As shown in Figure 2, in *Hsieh*, CCD1 is mounted on the rear of the vehicle and faces rearward, and CCD2 and CCD3 are side cameras mounted on the sides of the vehicle and face rear-sideward. Then, these are the claimed plurality of cameras as described in figures 6 and 19. The rear camera is activated when the vehicle backs up in a straight direction. When the vehicle backs up to the right, the rear camera and the right camera are activated, and when the vehicle backs up to the left, the rear camera and the left camera are activated. *Hsieh*, column 4: lines 36–67. The image from the appropriate camera or cameras is the claimed rear composite image.

Yanai discloses the claimed invention except for the claimed rear camera. *Hsieh* teaches that it was known in the art to use a rear camera to supplement side cameras for when the vehicle is backing up or traveling in reverse. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to modify the system of *Yanai* to use the rear camera of *Hsieh*, since *Hsieh* states in column 1: lines 14–56 that such a modification would prevent collisions while backing up due to sole reliance on, and improper steering from, a single image.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,214,266 (*Myers*) discloses a rear camera for a truck that adjusts its angle according to the steering angle. U.S. Patent 5,670,935 A (*Schofield*) teaches a rearview system including three cameras, presenting an integrated image from each of the three cameras. U.S. Patent 5,959,555 A (*Furuta*) teaches a blind spot checking apparatus with two cameras, mounted at the front of a vehicle, that can adjust their viewing range. U.S. Patent 6,476,855 B1 (*Yamamoto*) teaches a one, two, or three camera system for building a wide-angle forward view of a vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Werner whose telephone number is (571)272-9662. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. N. W./

Examiner, Art Unit 2621

/Mehrdad Dastouri/

Supervisory Patent Examiner, Art Unit 2621